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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/677,264

10/03/2003

Carl E. Norman

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EXAMINER

TRAN, BINH X

ART UNIT

PAPER NUMBER

1765

DATE MAILED: 09/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/677,264

Applicant(s)

NORMAN, CARL E.

Examiner

Binh X. Tran

Art Unit

1765

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) 13, 14 and 21-26 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 and 15-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 4/16/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

1. Applicant's election with traverse of Group I, Species 1A (claims 1-12, 15-20) in the reply filed on 06-19-2006 is acknowledged. The traversal is on the ground(s) that "since the electronic searching is commonly performed, a search may be made of a large member of, or theoretically all, subclass without substantially additional effort". This is not found persuasive because searching both process, apparatus, product including additional distinct species certainly create serious burden on the examiner.

The requirement is still deemed proper and is therefore made FINAL.

2. Claims 13-14 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 06-19-2006.

3. Claims 21-26 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 06-19-2006.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-7 are rejected under 35 U.S.C. 102(b) as being anticipated by Roth (US 6,096,175).

Respect to claim 1, Roth discloses a method for producing a free standing structure comprising the step of:

providing a substrate having a raised patterned formed on a surface of said substrate, said raise pattern comprising at least one material which forms said surface (See Fig 6 step B,);

depositing material (57) over said raised pattern (Fig 6, step C);

dissolving said substrate (52) to release said deposited material to form said free standing structure from said released deposited material (Fig 5 step D; col. 8 lines 41-67).

Respect to claims 2-3, Roth discloses the raised pattern defines a planar surface comprises 3D relief pattern (Fig 6 step B, C). Respect to claims 4-5, Roth discloses the substrate comprises a plurality second pattern (56), of lower relief than said raise pattern (57), said plurality of second pattern (56) being separated from said raise pattern (57) by a step and depositing material over said second pattern (See Fig 6).

Respect to claim 6, Roth disclose dissolving only part of said substrate to release said

deposit material from said raise pattern (57) but not from said second pattern (56) (See Fig 6 step D, col. 8 lines 63-65). Respect to claim 7, Roth disclose the step of dissolving the substrate in a second dissolving process (step E) to release deposit material to form a free standing structure comprises of said deposit material from said second pattern (56) (See Fig 6 step E; col. 8 lines 65-67).

6. Claims 1-3, 9-10, 17-18, 20 are rejected under 35 U.S.C. 102(e) as being anticipated by Stonas et al. (US 6,919,009).

Respect to claim 1, Stonas discloses a method for producing a free standing structure comprising the step of:

providing a substrate having a raised patterned formed on a surface of said substrate, said raise pattern comprising at least one material which forms said surface (See Fig 3B, 3C);

depositing material (208) over said raised pattern (Fig 3D);

dissolving said substrate to release said deposited material to form said free standing structure from said released deposited material (Fig 3E, col. 17 lines 43-60).

Respect to claims 2-3, Stonas discloses the raised pattern defines a planar surface comprises 3D relief pattern (Fig 3C-3D). Respect to claim 9, Stonas discloses the depositing produces a layer of material of thickness from 50 nm to 100 nm (within applicant's range; See col. 20 lines 35-40). Respect to claim 10, Stonas disclose the free standing structure is a bar code tag (col. 5 lines 48-67; col. 6 lines 30-45).

Respect to claim 17, Stonas discloses a method comprising the step of:

providing a mould having a buried sacrificial layer (202), said sacrificial layer being parallel to the main surface of said mould material (Fig 3A-3B);

masking the main surface of said mould with a mask pattern (i.e. photoresist pattern;

etching the mould material through said mask pattern with a first etch;

stopping said first etch at an etch stop level (204) within said sacrificial layer (col. 17 lines 1-50, Fig 3B);

etching the mould material with a second etch to selectively remove the sacrificial layer (203) below said etch stop level (204) (See Fig 3C, col. 17 lines 50-60).

Respect to claim 18, Stonas teaches to use laser etching (i.e. ArF excimer laser) or reactive ion etching to form pattern (col. 14 lines 55-67). Respect to claim 20, Stonas teaches the etching step on a perpendicular surface (read on non parallel surface; See Fig 3B-3D).

7. Claims 1-3, 9 are rejected under 35 U.S.C. 102(e) as being anticipated by Yang et al. (US 2002/0076575 A1).

Respect to claim 1, Yang discloses a method for producing a free standing structure comprising the step of:

providing a substrate (i.e. mold) having a raised patterned formed on a surface of said substrate, said raise pattern comprising at least one material which forms said surface (See Fig 1A, 1B, 2);

depositing material (36) over said raised pattern (Fig 1A, 1B, 2);

dissolving said substrate (i.e. dissolve mold) to release said deposited material to form said free standing structure from said released deposited material (Fig 1A, 1B, 2, paragraph 0062).

Respect to claims 2-3, Yang discloses the raised pattern defines a planar surface comprises 3D relief pattern (Fig 1A, 1B, 2). Respect to claim 9, Yang discloses the depositing produces a layer of material of thickness of less than about 20, 15, 10 or 1 μm (within applicant's range; paragraph 40).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Stonas et al. (US 6,919,009) in view of Jin (US 2004/0071951).

Respect to claim 8, Stonas fails to disclose the depositing material is aluminum. However, Stonas clearly teaches to deposit metal including copper (col. 7 lines 41-50). Jin discloses to fill metal including copper or aluminum to form a pattern (paragraph 0033). It would have been obvious to one having ordinary skill in the art, at the time of invention, to modify Stonas in view of Jin by using aluminum because equivalent and substitution of one for the other would produce an expected result.

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10. Claims 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stonas et al. (US 6,919,009) in view of Sano et al. (US 2001/0001472 A1).

Respect to claims 11-12, Stonas fails to disclose the bar code tag comprises a strip with a plurality of holes or notches cut into the side of the strips, the position of holes or notches determining the unique code of the tag. However, Stonas clearly disclose the bar code comprises a strip. Sano disclose a bar code tag comprises a strip having plurality of holes or notches cut into the side of the strip (See Fig 1-3). It would have been obvious to one having ordinary skill in the art, at the time of invention, to modify Stonas in view of Sano by having a bar code comprises a strip with plurality of holes or notches because it help to read or detect the pattern of the bar code using infrared light.

11. Claims 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stonas et al. (US 6,919,009) in view of Liang et al. (US 2003/0053190 A1).

Respect to claims 15-16, Stonas fails to disclose the mould to produce a plurality of substrate by pressing; wherein the mould in a roller shape and said pressing is carried out by rolling the mould across the surface of the substrate. Liang discloses to use the mould (20) having a roller shape and rolling the roller across the surface of the substrate to produce plurality of pattern on the substrate (See Fig 2a-2b; paragraph 0038-0040). It would have been obvious to one having ordinary skill in the art, at the time of invention, to modify Stonas in view of Liang by pressing the roller across the surface of the substrate because this process will create plurality of uniform pattern on the substrate surface.

12. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Stonas et al. (US 6,919,009) in view of Roth (US 6,019,175).

Respect to claim 19, Stonas fail to disclose the second etch comprises a wet etch. However, Stonas clearly disclose using etching to remove material in order to create pattern. Roth teaches to use wet etch (i.e. BOE, HNO₃, H₂O solution) to remove material the underlying layer below the mask (Fig 5 step C, col. 8 lines 19-24). It would have been obvious to one having ordinary skill in the art, at the time of invention, to modify Stonas in view of Roth by using wet etching because this is a well known technique to remove material below the mask to form a pattern.

Conclusion

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Binh X. Tran whose telephone number is (571) 272-1469. The examiner can normally be reached on Monday-Thursday and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nadine Norton can be reached on (571) 272-1465. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

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For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Binh Tran

Binh X. Tran